



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/050,021	01/15/2002	Stephen M. Fontes	RSW920010169US1	5506
7590	03/29/2005		EXAMINER	
Jeanine S. Ray-Yarletts IBM Corporation T81/503 PO Box 12195 Research Triangle Park, NC 27709			PWU, JEFFREY C	
			ART UNIT	PAPER NUMBER
			2143	

DATE MAILED: 03/29/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/050,021

Applicant(s)

FONTES ET AL.

Examiner

Jeffrey Pwu

Art Unit

2143

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5,7-13 and 15-17 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-5,7-13 and 15-17 is/are rejected.
- 7) ☒ Claim(s) 6 and 14 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>1/15/2002</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-5, 7-13, and 15-17 are rejected under 35 U.S.C. 102(e) as being unpatentable over Watson et al. (US 6,779,033).

Watson et al. disclose claims :

1. A method of producing a blended synchronization (SYN) cookie for use in a three-way handshake process comprising the steps of:
identifying within a SYN packet a source network address and desired communications session parameters (col.6, lines 23-34);
retrieving an index value into a table of pre-configured sets of communications session parameters, said index value referencing one of said sets which approximates said desired communications parameters (sequence number n; col.9, lines 7-22);
computing a hash value based upon said source network address, a constant seed and current date and time data (col.12, lines 16-44); and
combining said computed hash value with said index value, said combination forming the blended SYN cookie (col.12, lines 16-44).

2. The method of claim 1, wherein said combining step comprises: reducing said computed hash value by N most significant binary digits to accommodate N binary digits required to represent said index value; and, combining said reduced hash value with said index value, said combination forming the blended SYN cookie (col.12, lines 16-44).

3. A three-way handshake method, the three-way handshake comprising an initial request, an intermediate response to the initial request, and a final acknowledgment of the intermediate response, the method comprising the steps of:
extracting synchronization data from the initial request; storing said synchronization data in a fixed length, wrap-around table; based upon session parameters contained in said synchronization data, acquiring an index into a table of pre-configured sets of session parameters; computing an initial hash value based upon at least part of said synchronization data; combining said initial hash value and said acquired index and placing said combination into the intermediate response to the initial request; and, responsive to receiving the final acknowledgment of the intermediate response, extracting acknowledgment data from the final acknowledgment, identifying said initial hash value in said acknowledgment data, computing a new hash value based upon at least part of said acknowledgment data, comparing said new hash value with said initial hash value, and if said hash values do not match, discarding the final acknowledgment. (col.9, lines 7-22; col.12, lines 16-44).

Art Unit: 2143

4. The three-way handshake method of claim 3, further comprising the step of, if said hash values match, locating said session parameters in said fixed length, wraparound table and establishing a communications session using said located session parameters. (col.12, lines 16-44)

5. The three-way handshake method of claim 4, further comprising the step of, if said session parameters cannot be located, identifying said acquired index in said acknowledgment data, retrieving a pre-configured set of communication parameters based upon said acquired index, and establishing a communications session using said located session parameters. (col.12, lines 16-53)

7. The three-way handshake method of claim 3, further comprising the steps of: observing said session parameters in said synchronization data; and, tuning said table of pre-configured sets of session parameters based upon said observed session parameters. (steps of fig.15, repeating steps of 260-263)

8. A communications handshake system comprising: a communications process configured to receive and respond to requests to establish data communications sessions, said requests comprising synchronization (SYN) packets and acknowledgment (ACK) packets; a fixed length, wrap-around table configured to store desired session parameters extracted from said SYN packets; a table of pre-configured session parameters which can be used to approximate said desired session

Art Unit: 2143

parameters; and, a blended SYN cookie generator configured to combine SYN cookies with an index into said table of pre-configured session parameters, said index referencing a set of pre-configured session parameters which approximate corresponding ones of said desired session parameters; whereby said communications process both can authenticate said ACK packets by comparing hash values contained in said SYN cookies with hash values generated in response to receiving said ACK packets, and also can establish said data communication sessions using said desired session parameters in said fixed length, wrap-around table, or said approximated session parameters where said desired session parameters are not found in said fixed length wrap-around table. (Claim 8 is similarly rejected as in claims 1 and 3)

9. The communications handshake system of claim 8, further comprising a network address translator configured to perform network address translation between endpoints in said established communications sessions. (col.9, lines 7-22; col.12, lines 16-44).

10. The communications handshake system of claim 8, wherein said SYN cookie comprises a hash value computed from a network address, a seed value and a date and time value. (col.12, lines 16-43)

11. A machine readable storage having stored thereon a computer program for performing a three-way handshake method, the three-way handshake comprising an

Art Unit: 2143

initial request, an intermediate response to the initial request, and a final acknowledgment of the intermediate response, the computer program comprising a routine set of instructions for causing the machine to perform the steps of: extracting synchronization data from the initial request; storing said synchronization data in a fixed length, wrap-around table; based upon session parameters contained in said synchronization data, acquiring an index into a table of pre-configured sets of session parameters; computing an initial hash value based upon at least part of said synchronization data; combining said initial hash value and said acquired index and placing said combination into the intermediate response to the initial request; and, responsive to receiving the final acknowledgment of the intermediate response, extracting acknowledgment data from the final acknowledgment, identifying said initial hash value in said acknowledgment data, computing a new hash value based upon at least part of said acknowledgment data, comparing said new hash value with said initial hash value, and if said hash values do not match, discarding the final acknowledgment. (Claim 11 is similarly rejected as in claims 1 and 3)

12. The machine readable storage of claim 11, further comprising, if said hash values match, locating said session parameters in said fixed length, wrap-around table and establishing a communications session using said located session parameters.

13. The machine readable storage of claim 12, further comprising, if said session parameters cannot be located, identifying said acquired index in said acknowledgment

Art Unit: 2143

data, retrieving a pre-configured set of communication parameters based upon said acquired index, and establishing a communications session using said located session parameters. (col.12, lines 16-43)

15. The machine readable storage of claim 11, further comprising the steps of: observing said session parameters in said synchronization data; and, tuning said table of pre-configured sets of session parameters based upon said observed session parameters. (see method steps of fig.8)

16. A blended SYN cookie article of manufacture, comprising: an index value into a table of pre-configured sets of communications session parameters, said index value referencing one of said sets which approximates specified communications parameters; and, a hash value combined with said index value, said hash value comprising a hash of a network address, a constant seed and current date and time data. (col.12, lines 16-54)

17. The blended SYN cookie article of manufacture of claim 16, wherein said hash value comprises the N most significant binary digits of said hash value, wherein N is computed based upon a number of binary digits required to represent said index value. (col.12, lines 16-54)

Allowable Subject Matter

3. Claims 6 and 14 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeffrey Pwu whose telephone number is 571-272-6798. The examiner can normally be reached on 8-6.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wiley can be reached on 571-272-3923. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



March 20, 2005

JEFFREY PWU
PRIMARY EXAMINER